Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Wireless Telecommunications Bureau	)	WT Docket No. 24-240
and Office of Engineering and	)	
Technology Seek Comment on NextNav	)	RM 11-989
Petition for Rulemaking	)	

To: Chief, Wireless Telecommunications Bureau
Chief, Office of Engineering and Technology

COMMENTS OF WISPA – *THE ASSOCIATION FOR BROADBAND WITHOUT BOUNDARIES*

WISPA – *The Association for Broadband Without Boundaries* ("WISPA") submits its initial Comments in response to the *Public Notice* issued by the Wireless Telecommunications Bureau and the Office of Engineering and Technology requesting comment on the petition for rulemaking filed by NextNav Inc. ("NextNav").[1] NextNav's Petition requests that the Commission reconfigure the 902-928 MHz band ("Lower 900 MHz Band") to create a single, nationwide 15-megahertz exclusive-use license to be granted to NextNav, and to condense all other use of the Lower 900 MHz Band down into the remaining 11-megahertz portion of the band, at least in areas where NextNav chooses to operate.[2] NextNav further proposes specific updates to the Commission's rules, including the elimination of the existing safe harbor for unlicensed operation of Part 15 devices in the Lower 900 MHz Band.[3]

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[1] *Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on NextNav Petition for Rulemaking*, Public Notice, WT Docket No. 24-240, RM-11989, DA 24-776 (rel. Aug. 6, 2024) ("*Public Notice*"); NextNav Petition for Rulemaking, Enabling Next-Generation Terrestrial Positioning, Navigation, and Timing and 5G: A Plan for the Lower 900 MHz Band (902-928 MHz) (filed Apr. 16, 2024) ("Petition"); Letter from Robert Lantz, NextNav Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission (filed June 7, 2024) ("Petition Supplement").

[2] *See Public Notice* at 2.

[3] *Id*. at 2 and 4.

WISPA represents the interests of hundreds of small and medium-sized broadband service providers that collectively deliver broadband internet connectivity services to approximately nine million consumers, businesses, first responders and community anchor institutions around the country. WISPA's members bring critical internet access to millions of Americans in unserved and underserved rural, suburban, urban and Tribal areas of the country, offering reliable, cost-effective and innovative service options where they did not previously exist. On behalf of its members, WISPA has been directly involved in proceedings related to the use of the Lower 900 MHz band for more than twelve years. For the reasons set forth below, WISPA opposes NextNav's Petition and urges the Commission to reject NextNav's proposed structural and regulatory changes to the Lower 900 MHz band.

Discussion

I. THE COMMISSION MUST NOT UNDERMINE THE OVERWHELMING SUCCESS OF UNLICENSED USE OF THE LOWER 900 MHZ BAND

In 1985, the Commission authorized the use of the 902-928 MHz band on an unlicensed basis under Part 15 of its rules, effectively sparking a wave of innovation and investment in the development and deployment of new technologies and services, including the birth of the fixed wireless broadband access industry.[4] Ten years later, when it established the Multilateration-Location and Monitoring Service ("M-LMS") in portions of the same band, the Commission acknowledged the presence in the band of "several million Part 15 devices … used every day to provide a wide variety of valuable services to the American public" and "the enormous benefits to both businesses and consumers that will result from the continued growth in use of the Part 15 industry."[5] The Commission therefore expressly conditioned the use of M-LMS licenses "upon the licensee's ability to demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to 47 CFR Part 15 devices."[6]

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[4] *See Authorization of Spread Spectrum and Other Wideband Emissions Not Presently Provided for in the Commission's Rules and Regulations*, 101 FCC 2d 419 (1985); *Revision of Part 15 of the Rules Regarding Operation of Radio Frequency Devices Without an Individual License*, 4 FCC Rcd 3493 (1989).

Since that time, unlicensed services have flourished, and continue to flourish, in the Lower 900 MHz band, which – far from being "underutilized" – is now shared by millions of consumer and industrial devices that enable a broad range of use cases, including devices for fixed broadband access, "life-safety" communications, "smart" meters, utility infrastructure monitoring and control systems, and remote agriculture, as well as a wide variety of consumer devices such as smart thermostats, wireless microphones and headsets, and home security systems. The continuing importance of the Lower 900 MHz band for supporting and promoting new applications and services is reflected in the Commission's Equipment Authorization database, which shows over 2,000 filings in just the past 18 months for new technologies and devices intended for use in this band.[7]

Indeed, while NextNav refers to the 902-928 MHz band as "underutilized," it more accurately fits a famous quote attributed to Yogi Berra, "nobody goes there anymore, it's too crowded." Not only is the Lower 900 MHz band not underutilized, but it may be one of the most crowded parts of the spectrum, other than, perhaps, some broadcast and other unlicensed bands. The likelihood that millions of devices will suddenly change frequencies in order to protect the system NextNav seeks to deploy is thus extremely slim at best. Use of this band by fixed wireless access providers has declined somewhat because of that congestion and the resulting interference, though the band remains an important option.

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[5] *Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems*, Report and Order, 10 FCC Rcd 4695, 4699-4700 (1995).

[6] *Id*. at 4737; 47 C.F.R. § 90.353(d).

[7] EA Query on August 30, 2024, for "Final Action Date From: 01/01/2023 Final Action Date To: 09/01/2024 Lower Frequency: 902 Upper Frequency: 928 First Rule Part: 15."

NextNav's proposal, however, would limit unlicensed access to almost 60% of the spectrum that is currently available in the Lower 900 MHz band for use by unlicensed Part 15 devices and eliminate the current and essential protections that have enabled robust unlicensed use of the band for decades. WISPA therefore opposes NextNav's proposal and urges the Commission not to take any action that would undermine the overwhelming success of unlicensed use of the Lower 900 MHz band and thereby disrupt the provision of services to millions of consumers.

II. NEXTNAV'S PROPOSAL WILL HARM THE USE OF THE LOWER 900 MHZ BAND TO PROVIDE ESSENTIAL BROADBAND ACCESS TO THE PUBLIC

WISPA's members make substantial use of the Lower 900 MHz band to provide essential broadband access services to many of the millions of Americans in unserved and underserved rural, suburban, urban and Tribal areas of the country, particularly in areas that are otherwise unreachable by other wireless or wireline platforms due to clutter, terrain or other obstructions. WISPA is therefore particularly concerned about the impact that NextNav's proposed changes to the current framework for the Lower 900 MHz band would have on its members' operations and on the customers that they serve.

A. Many Fixed Wireless Providers Rely on the Lower 900 MHz Band to Provide Broadband Service to Customers in Hard-to-Reach Areas

Many fixed wireless internet service providers continue to rely on the Lower 900 MHz band to provide broadband service to customers who live and work in hard-to-reach areas and who otherwise could not be served. While other bands have since become available on a licensed, unlicensed, or shared-use basis offering wider channels and potentially greater speed and throughput – such as the 2.4 GHz, 5 GHz, 6 GHz, and CBRS bands – these mid-band frequencies do not propagate as well and generally require clear line-of-sight paths to be usable. By contrast, the Lower 900 MHz band is often usable on near-line-of-sight paths and is subject to very low losses from clutter, particularly foliage, which often presents an insurmountable obstacle to higher-frequency bands.

For these reasons, WISPA members use the Lower 900 MHz band to serve numerous homes and businesses in heavily forested and rural areas where they are surrounded or otherwise blocked by trees. These locations cannot be reached by signals in the 5 GHz or 6 GHz bands, and in only limited cases are signals in the 2.4 GHz or CBRS bands able to penetrate foliage well enough to reach them. In addition, because of the remote location or challenging terrain, many of these areas would not be cost-effective for fiber deployment. The use of unlicensed Part 15 devices in the Lower 900 MHz band therefore fills an important gap by enabling the provision of service to customers who otherwise cannot be reached and who could not be served if their providers are compelled to relocate their operations to higher-frequency bands.

According to a recent survey of WISPA's membership, approximately 58 percent of respondents reported that they still use unlicensed Part 15 devices in the Lower 900 MHz band to serve subscribers, including public safety subscribers, who cannot be reached with other bands due to the signal penetration and non-line-of-sight capabilities required to overcome heavy forestation and other obstacles. Several of these respondents report that because most, if not all, of these subscribers cannot be served or accommodated on other spectrum bands, service providers cannot relocate them and would be compelled to discontinue service to these customers entirely if they are unable to continue using the Lower 900 MHz band on an unlicensed basis. Not only would the service providers lose revenue, but the affected subscribers would be significantly harmed because they would no longer have access to essential broadband service, thus finding themselves on the wrong side of the digital divide and exacerbating the problem of broadband access that Congress and the Commission have been striving to eliminate. These providers are therefore particularly concerned about the impact that NextNav's proposed changes to the current framework for the Lower 900 MHz band would have on their operations and on the customers that they serve.

B. NextNav's Proposal Restricts the Spectrum Available for Unlicensed Use and Would Create and Exacerbate Congestion

Under the current framework, which makes the full 26 megahertz of the Lower 900 MHz band available for unlicensed use, WISPA's members are able to provide broadband access services at download speeds of 25 Mbps or more (depending on the extent to which the signal-to-noise ratio is affected by other users of the band). To achieve this, a fixed wireless provider typically makes use of two 10-megahertz channels. Under NextNav's proposal, however, only 11 megahertz of the Lower 900 MHz band would be available, which means that even under ideal conditions only one 10-megahertz channel would be available. Although a 10-megahertz channel is wide enough to provide 25 Mbps services (at least when a good signal to noise ratio is available), if other unlicensed users of the band were to cause interference to that channel, or mutual interference was caused between different fixed wireless sectors on the channel, the provider would have to either retune to a narrower channel providing service at a much lower speed or vacate the band altogether and abandon its broadband customers. Unfortunately, the NextNav proposal makes such an outcome almost inevitable – condensing all unlicensed use of the Lower 900 MHz band from 26 megahertz to 11 megahertz is like closing two lanes of a three-lane road and forcing all of the cars, trucks, buses, bicycles, and pedestrians to share the one remaining lane. The resulting congestion would make the Lower 900 MHz band effectively unusable not only for providing broadband access, but also unusable for supporting the millions of devices and multitudes of services and applications that currently exist in this band.

C. The Commission Should Maintain the Current Field Testing Requirement

Because its members continue to use – and rely on – the Lower 900 MHz band to provide essential broadband service and to close the digital divide, WISPA urges the Commission to maintain the existing requirement that licensed use of the band is "conditioned upon the licensee's ability to demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to 47 CFR part 15 devices."[8] The key to the overwhelming success of the Lower 900 MHz band is not the ability of Part 15 devices to coexist with other Part 15 devices, but the coexistence of *all* users of the Lower 900 MHz band, both licensed and unlicensed. As the Commission is aware, and as will be made clear in the record, the band is now used by millions of unlicensed devices to provide a wide variety of valuable services to the American public, and thus there is no need to change the requirement for testing to evaluate the impact that a licensed system will have on those millions of Part 15 devices.[9]

Furthermore, the high level of unlicensed use of the Lower 900 MHz band and value of the services provided demonstrates that no change is needed to the requirement that any licensed use of the band not cause unacceptable levels of interference to Part 15 devices.[10] Rather, the Commission should revisit and refine its definition of "unacceptable levels of interference" in accordance with WISPA's still-pending petition for reconsideration on this issue.[11]

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[8] 47 C.F.R. § 90.353(d).

[9] *See* Public Notice at 4.

[10] *Id*.

[11] Petition for Reconsideration of the Wireless Internet Service Providers Association, WT Docket No. 11-49 (filed July 8, 2013); *See also* Reply to Opposition to Petition for Reconsideration of the Wireless Internet Service Providers Association, WT Docket No. 11-49 (filed Aug. 2, 2013).

III. AN ALTERNATIVE APPROACH MAY PROVIDE THE SAME SERVICE WITH LESS DISRUPTION

At the heart of NextNav's proposal is its claim to be able to intermix a terrestrial PNT service with a 5G NR signal, allowing both PNT and mobile telephone service to be provided over the same channels. NextNav seeks to convert its M-LMS licenses, which fetched less than one cent per pop at auction, into a far more valuable mobile telephone license with the justification of making its PNT more widely available.

The primary value of its PNT service is to provide better vertical (Z-axis) location than GNSS, which is most important in areas where buildings are tall and thus Z-axis information may be useful for E911 calls where the caller is unable to otherwise state the location including the floor number. Rather than grant NextNav a windfall 15-megahertz mobile license, NextNav could make its technology available to others, perhaps under a Standard Essential Patent type of license. Then existing mobile carriers could be given incentives to license the service on their existing systems, especially on below-1 GHz coverage cells in urban areas.

Conclusion

For all of the foregoing reasons, WISPA urges the Wireless Telecommunications Bureau and the Office of Engineering and Technology to reject NextNav's proposal to realign the Lower 900 MHz band and adopt a new structural and regulatory framework for the band as set forth in its Petition.

Respectfully submitted,

WISPA –
THE ASSOCIATION FOR
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